DEPARTMENT of ENVIRONMENTAL SERVICES Water Supply & Pollution Control Division - Biology Bureau

LAKE TROPHIC DATA

MORPHOMETRIC:

Lake: AYERS ISLAND DAM	POND	Lake Area (ha):	202.34
Town: BRISTOL		Maximum depth (m):	20.4
County: Grafton		Mean depth (m):	10.5
River Basin: Merrimack		Volume (m³):	21345000
Latitude: 43°36'02"	N	Relative depth:	1.3
Longitude: 71°42'46"	W	Shore configuration:	
Elevation (ft):	450	Areal water load (m/	yr):
Shore length (m):		Flushing rate (yr-):	
Watershed area (ha):		P retention coeff.:	-
% watershed ponded:		Lake type:	artificial

BIOLOGICAL:	15 February 1997	1 August 1996	
DOM. PHYTOPLANKTON (% TOTAL) #1		DINOBRYON 75%	
#2			
#3			
PHYTOPLANKTON ABUNDANCE (units/mL)			
CHLOROPHYLL-A (µg/L)		1.83	
DOM. ZOOPLANKTON (% TOTAL) #1		KERATELLA 45%	
#2			
#3			
ROTIFERS/LITER			
MICROCRUSTACEA/LITER			
ZOOPLANKTON ABUNDANCE (#/L)			
VASCULAR PLANT ABUNDANCE		Sparse	
SECCHI DISK TRANSPARENCY (m)		2.7	
BOTTOM DISSOLVED OXYGEN (mg/L)		8.2	
BACTERIA (E. coli, #/100 ml) #1		< 10	
#2			
#3			

SUMMER THERMAL STRATIFICATION:

not stratified

Depth of thermocline (m): None Hypolimnion volume (m^3) : None Anoxic volume (m^3) : None

CHEMICAL:			AYERS ISI BRISTOL	LAND DAM	POND
	15 February 1997 1 August 1996			96	
DEPTH (m)	-99.0		6.0		13.0
pH (units)			6.6		6.3
A.N.C. (Alkalinity)			4.8		4.4
NITRATE NITROGEN		3112 772			
TOTAL KJELDAHL NITROGEN					
TOTAL PHOSPHORUS			0.023		0.012
CONDUCTIVITY (µmhos/cm)			48.2		47.3
APPARENT COLOR (cpu)			55		60
MAGNESIUM			0.05		
CALCIUM			2.8		
SODIUM	A.di in		4.8		
POTASSIUM			0.56		
CHLORIDE					
SULFATE					
TN : TP	to the same				
CALCITE SATURATION INDEX	1.40.00		3.6		

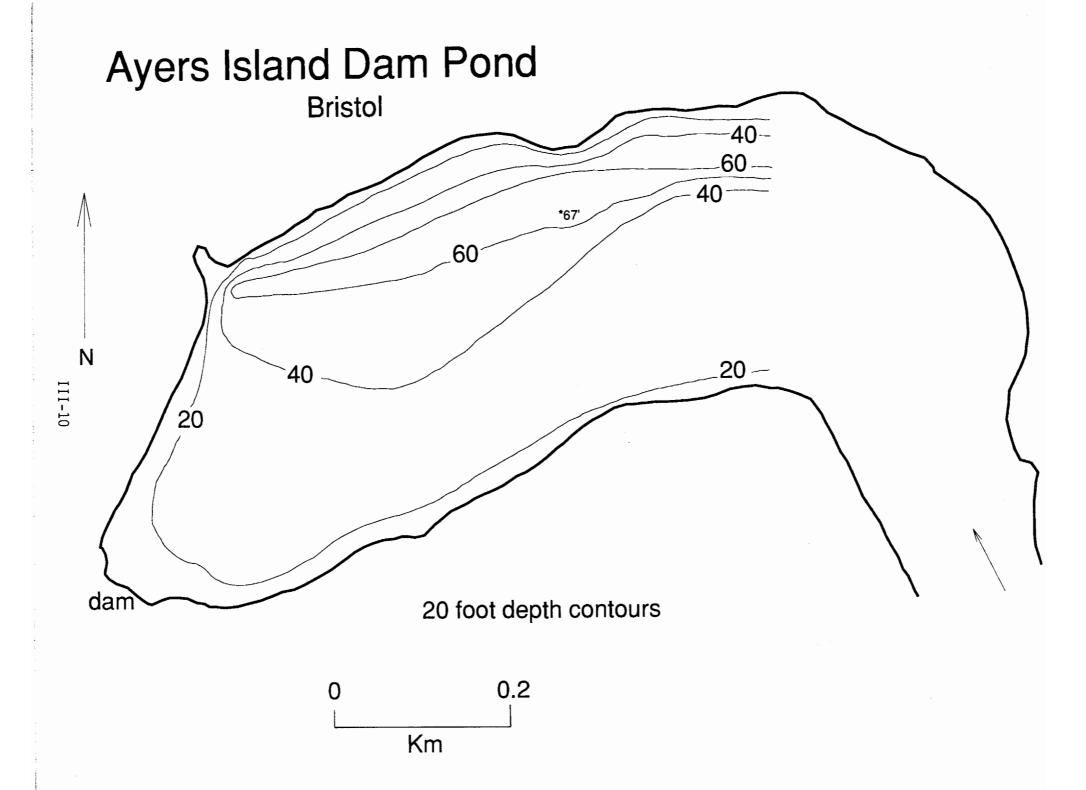
All results in mg/L unless indicated otherwise

TROPHIC CLASSIFICATION: 1996

D.O.	S.D.	PLANT	CHL	TOTAL	CLASS
**	3	0	0	3	Oligo.

COMMENTS:

- 1. This is an impoundment on the Pemigewasset River in Bristol, created by Public Service's Ayers Island hydroelectric dam.
- 2. No winter samples were collected due to thin ice and open water.
- 3. There was no thermal stratification and no dissolved oxygen depletion with depth at the time of the summer sampling. Readings were taken only to within 11 feet of the bottom, but a bottom water sample had no anoxic odor.



FIELD DATA SHEET

LAKE: AYERS ISLAND DAM POND

TOWN: BRISTOL

DATE: 08/01/96 WEATHER: OVERCAST; COOL

DATE: 00/01/30	***************************************		
DEPTH (M)	TEMP (°C)	*DISSOLVED OXYGEN	OXYGEN SATURATION
0.1	20.1	8.8	95 %
1.0	20.0	8.8	95 %
2.0	20.0	8.8	95 %
4.0	19.9	8.2	88 %
6.0	19.8	8.2	88 %
8.0	19.8	8.2	88 %
10.0	19.5	8.2	88 %
12.0	19.3	8.2	88 %
14.0	19.1	8.1	87 %
16.0	19.0	8.2	88 %
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SECCHI DISK (m): 2.7

COMMENTS:

BOTTOM DEPTH (m): 19.4

1000

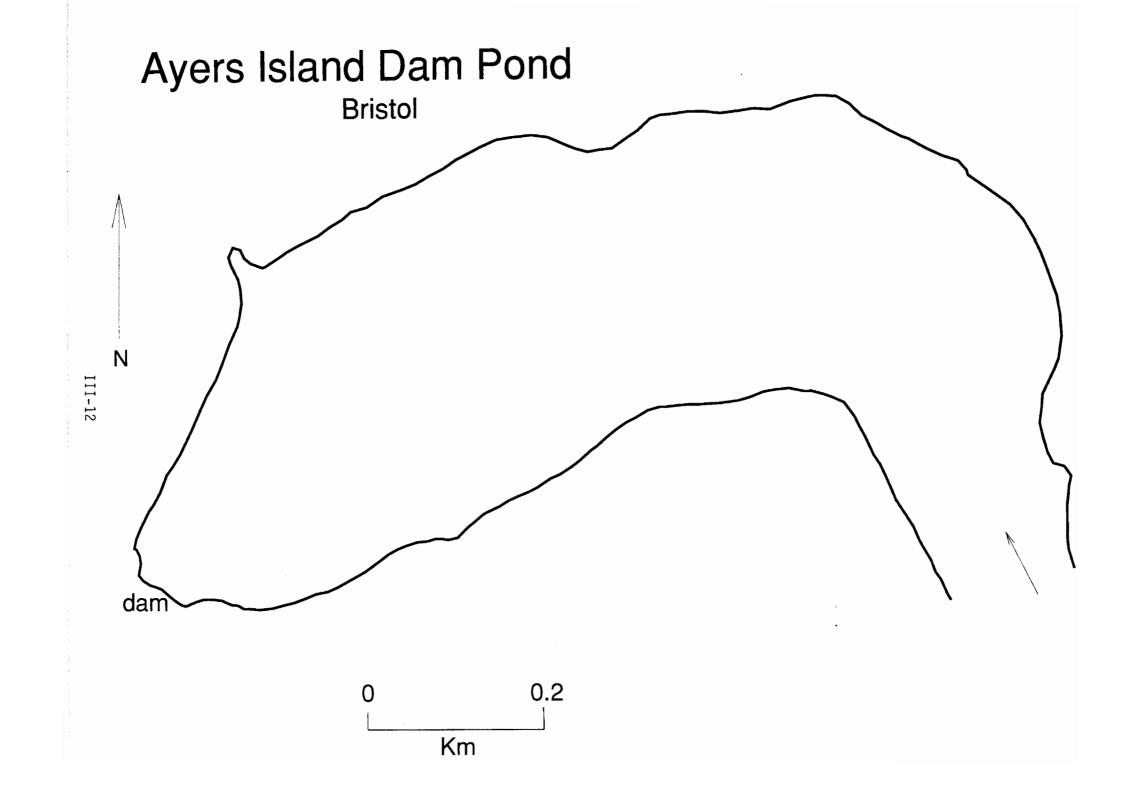
The cable for the temp./D.O.

probe did not reach to the

bottom.

*Dissolved oxygen values are in mg/L

TIME:



AQUATIC PLANT SURVEY						
LAK	E: AYERS ISLAND DAM POND	TOWN: BRISTOL	DATE: 08/01/96			
Key PLANT NAME ABUNDANC						
кеу	GENERIC	COMMON	ABUNDANCE			
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-	All the state of t					
-						
		OVERALL ARIMDANCE.	Sparse			
OVERALL ABUNDANCE: Sparse GENERAL OBSERVATIONS:						
No plants were observed, probably due to fluctuating water levels.						